

REMARKS

Claims 1-16 remain pending in this patent application.

PRIOR ART REJECTION

Claims 1-12 stand rejected under 35 USC § 103(a) as being unpatentable over US 4503002 (Klebe et al.) and DE 1 163 784 (Schutte et al.) in view of US 6103004 (Belligoi et al.). For reasons presented below, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

As described in the specification of this application, in studies where the present inventors installed cyclones and bag filters to recover silica that had flown out from fluidization vessels and examined the degree of fly-out based on the amount of silica recovered, the fly-out ratio was found to be 0.3 to 0.5% when conventional pyrogenic silica (i.e., hydrophilic silica in which hydrophobizing surface treatment is *not* conducted) is deacidified in a fluidization vessel, and 4 to 15% when such silica is first treated with a hydrophobizing agent then deacidified. While the shape of the equipment and the fluidizing conditions also have an effect on the fly-out ratio, this large difference appears to be attributable to the breakup of agglomerates in hydrophobizing treatment, which leads to easier fly-out than when the silica is subjected only to deacidification. Recovery of the fugitive silica is thus necessary to improve product yield and alleviate the burden on waste gas treatment.

In hydrophobizing treatment, a high concentration of chlorine is generally present in the gas, creating a need for subsequent deacidification. It is more effective to carry out hydrophobizing treatment and deacidification separately.

In the inventive apparatus, a fluidization vessel has a hydrophobizing section or device for hydrophobizing the collected silica fine powder and a deacidifying section or device for removing halogen gas which accompanies the silica from the hydrophobizing section, the hydrophobizing section or device being divided from said deacidifying section or device and communicating with said deacidifying section or device in a lower portion of the fluidization vessel.

Applicant submits that Klebe, Schutte and Belligoi do not disclose or suggest the inventive fluidization vessel disclosed and claimed in this application.

On page 3 of the Office Action, the Examiner states, "Schutte et al. discloses wherein the deacidification and hydrophobization can take place in separate zones as well as in a single zone (col. 3, lines 54-60). Therefore, it is disclosed that it is known in the art that the hydrophobizing and deacidifying can be divided; and thereby, it would be obvious and inherent that the deacidification and hydrophobization zones are in fluid communication with one another."

However, US 3924029 (Schutte et al.) states in column 3, lines 46-51, "It is particularly advantageous that the deacidification and the dehydration treatment do not necessarily have to take place in separate zones. The reaction conditions for the surface treatment are such that deacidification and dehydration can take place simultaneously." Thus, *Schutte offers a recommendation that the deacidification and dehydration treatment be simultaneously conducted.*

Accordingly, if the teachings in Klebe, Schutte and Belligoi were combined, one of ordinary skill in the art would understand that *conducting the hydrophobizing treatment and the acidifying treatment simultaneously is advantageous or has at least the same effect as compared with conducting the deacidifying treatment separately from the hydrophobizing treatment.*

Declaration Submitted under 37 CFR § 1.132

As demonstrated by the results presented in a Declaration of Masonubu Nishimine enclosed herewith, when the hydrophobizing treatment and the deacidifying treatment are simultaneously conducted by using an apparatus in which a partition between a hydrophobizing treatment zone and a deacidifying treatment zone is removed and both zones are unified so that the hydrophobizing treatment and the deacidifying treatment are simultaneously conducted in the same one zone, a fly-out ratio and burden to waste gas treatment apparatus (cyclone and bag filter) would increase remarkably.

On the other hand, as discussed above, by using the apparatus disclosed and claimed in this application, the fly-out ratio can be greatly decreased. This advantageous feature of

Applicant's disclosed and claimed invention could not be expected from any reasonable combination of Klebe, Schutte and Belligoi teachings.

In view of the foregoing observations, Applicant submits that no reasonable combination of the disclosures in Klebe et al., Schutte et al. and Belligoi et al. can properly serve as a basis for rejecting independent claims 1, 2 and 9 or dependent claims 3-8 and 10-12 under 35 USC § 103(a).

CONCLUSION

In view of the amendments, observations and arguments presented herein, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection stated in the outstanding Office Action and recognize all of the pending claims as allowable.

If unresolved matters remain in this application, the Examiner is invited to contact Frederick R. Handren, Reg. No. 32,874, at the telephone number provided below, so that these matters can be addressed and resolved expeditiously.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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Attachment: Declaration of Masonubu Nishimine (4 pages)